AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of transmitting QPSK digital signals in which each 2-digit binary number, referred to as a symbol, is assigned a phase of a carrier, each of the four 2-digit binary numbers corresponds to a quadrant of the complex plane, and supplementary binary digits generated in accordance with an error correcting product code are added to a set of binary digits to enable error correction at the receiver, said method comprising the steps of:

~~wherein, the error correction code being a product (turbo) code, to obtain transparency to phase rotations, the~~placing I and Q bits of a 2-digit symbol to be transmitted ~~are placed~~ in different rows but in the same column, so that each row contains only one type of bit, I or Q,

effecting the error correction coding ~~is effected:~~ row by row~~,~~ and then by pairs of adjacent columns,

deducing the code I bits of two associated adjacent columns ~~are deduced~~ from the I bits of said two columns,

deducing the code Q bits of said two associated adjacent columns ~~are similarly deduced~~ from the Q bits of said columns,

disposing said coded bits ~~are disposed in the same fashion as the starting bits, i.e.~~ so that each row contains only one type of bit, I or Q, and

transmitting the pairs adjacent code I and Q bits in the same column ~~are transmitted like~~ along with the ~~other~~2-digit symbols to be transmitted.

2. (Currently Amended) A method of transmitting QPSK digital signals in which each 2-digit binary number, referred to as a symbol, is assigned a phase of a carrier, each of the four 2-digit binary numbers corresponds to a quadrant of the complex plane, and supplementary binary digits are added to a set of binary digits to enable error correction at the receiver, wherein the error correction code being a product ~~(turbo)~~ code, for coding symbols to be transmitted to obtain transparency to phase rotations, the I bits and Q of a symbol are placed in the same row, so that each of the rows is formed of pairs of I and Q bits, the rows and the columns are disposed so that, in each column, the I and Q bits alternate, the rows and the columns are coded by adjacent pairs so that the code I bits are derived from the I bits of two associated adjacent rows (columns), the code Q bits of said two adjacent rows (columns) are similarly derived only from the Q bits of said two rows (columns), the code bits are disposed so that each row contains pairs of I and Q bits~~like the starting bits~~, and the pairs of code I and Q bits in each row are transmitted ~~like~~ along with the ~~other~~2-digit symbols to be transmitted.

3. (Original) A method according to claim 1, wherein the symbols form a natural succession or a Gray succession in a complex plane.

4. (Original) A method according to claim 2, wherein the symbols form a natural succession or a Gray succession in a complex plane.

5. (Original) A method according to claim 1, wherein the symbols undergo differential coding before error correction coding in order to transmit the difference between two successive symbols.

6. (Original) A method according to claim 2, wherein the symbols undergo differential coding before error correction coding in order to transmit the difference between two successive symbols.

7. (Original) A method according to claim 1 applied to transmitting QAM-16 digital signals, which method consists of representing a 4-digit binary number or symbol by the phase and the amplitude of a carrier and effecting error correction coding on the first two binary digits and the last two binary digits.

8. (Original) A method according to claim 2 applied to transmitting QAM-16 digital signals, which method consists of representing a 4-digit binary number or symbol by the phase and the amplitude of a carrier and effecting error correction coding on the first two binary digits and the last two binary digits.

9. (Original) A method according to claim 7, wherein, for transmission, the sixteen 4-digit binary numbers or symbols are arranged in a complex plane so that each quadrant contains four symbols having two first digits representing different numbers and the same last two digits, said sixteen symbols are arranged in four subsets in the four quadrants of the complex plane and over the whole of the complex plane, each subset is formed by the set of numbers having the same first two binary digits, and the coordinates of the symbols in the complex plane are chosen so that after a rotation of $\pm K\pi/2$ (where K is an integer), each subset takes the place of another subset.

10. (Original) A method according to claim 8, wherein, for transmission, the sixteen 4-digit binary numbers or symbols are arranged in a complex plane so that each quadrant contains four symbols having two first digits representing different numbers and the same last two digits, said sixteen symbols are arranged in four subsets in the four quadrants of the complex plane and over the whole of the complex plane, each subset is formed by the set of numbers having the same first two binary digits, and the coordinates of the symbols in the complex plane are chosen so that after a rotation of $\pm K\pi/2$ (where K is an integer), each subset takes the place of another subset.

11. (Original) A method of receiving QPSK digital signals transmitted by the transmission method according to claim 1, which method includes decoding that is the inverse of the error correction coding effected at the transmitter.

12. (Original) A method of receiving QPSK digital signals transmitted by the transmission method according to claim 2, which method includes decoding that is the inverse of the error correction coding effected at the transmitter.